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Action research to promote leadership and agency in developing sustainable schools and communities

Barry Percy-Smith

Introduction

Learning is widely acknowledged as being critical to strategies for change in response to global environmental crises and the challenge of living sustainably (Wals 2007; Sterling 2001; Selby 2008; Scott 2009; Shallcross *et al.* 2006). However, there is a critical mass of writers who argue that it is only through transformative learning processes that the central issues concerning human relationships with the planet will be addressed. Yet, in spite of an expanding literature on such processes, in much of skills policy there seems to be a naive assumption that if we equip people with the right skills and knowledge we will be able to live sustainably and arrest environmental collapse. Indeed there is emerging evidence to suggest that strategies for learning and change based on linear processes of knowledge transfer are likely to fall short of the transformative change needed and at best result only in incremental 'simple and painless' changes (Crompton and Thorgeron 2009; Percy-Smith and Burns 2009).

Education for sustainable development (ESD) has now moved centre stage in public policy agendas. In particular, in schools across England, the sustainability agenda is central to children's education. In 2006 the sustainable schools strategy was announced, setting out the obligations of schools in providing education for sustainable development for children. Placing the emphasis on ESD in schools suggests that children have a role as agents of change in bringing about sustainable communities. But a key question concerns the extent to which approaches to ESD currently being adopted are providing appropriate opportunities for children and young people to engage in critical learning and action as a basis for them building the capacity and exercising leadership as agents of change in their communities now rather than in the future as adults.

This chapter examines critically some of the key assumptions and challenges in relation to learning and skills that characterise current approaches to ESD in schools in England and, in response, discusses the value of an action research approach as an alternative strategy for building capacity for leadership and agency to bring about more sustainable futures. Based on learning from an action research project with young people in six schools across England, the chapter highlights some of the key requirements for making ESD effective in terms of leadership,

agency, experiential learning, critical reflexivity and creating spaces for community learning and action. It argues that by involving children and young people, and in turn adult community members, directly in a person-centred learning process people are better equipped with the necessary competences, inclinations and predisposition to be leaders in making sustainable changes a reality in their own lives and communities.

Developing a framework of sustainability learning and change with young people

Elsewhere I have discussed some of the challenges and contradictions in the assumptions that underlie current approaches to learning for sustainability (Percy-Smith 2009; see also Kingsnorth 2009), which I argue we need to become more conscious of if sustainable learning and change strategies are to be effective. In particular, we need to confront the paradox of our current existence and be honest about the reality of the state of the planet and human impacts and, based on a more enlightened critical consciousness, how we might take greater responsibility for how we respond to the current situation individually and collectively at a local level. This requires developing capacities as leaders (in terms of being proactive) and becoming gradually more empowered as agents of change, making decisions and choices fully cognisant of the connectedness of human societies within the web of life at a global and local level. This also necessitates developing an ethic of practice in everyday actions, decisions and choices (Capra 1997). But this cannot happen whilst we are fixated on technological solutions and a linear model of instrumental learning to achieve predetermined ends. Instead, an action research approach is required; one that focuses on the dialectic relationship between learning and action and that creates opportunities for seeing and engaging differently in learning, taking action and developing the capacity for critical reflexivity.

There is an established body of knowledge that documents children and young people's role as active citizens in shaping their environments and communities (Hart 1997; Chawla 2002; Checkoway and Gutierrez 2006; Percy-Smith and Thomas 2010) and a literature on children as environmental guardians and children's affinity for nature (Hart 1995). Children are well disposed to take on roles as agents of change, yet adults also need to be engaged in learning and change. Wals (2007) and Blewitt (2008) argue for a social learning approach – concerned not with 'what' people learn, but 'how' people learn, emphasising the importance of learning that involves community empowerment and participation. Common to all these examples is a focus on the relationship between learning and change as an iterative process, and a tendency to be community-based rather than school-based. Further, whilst there is abundant literature on the role of education in sustainable development in theory, there are fewer empirical examples providing insights into the praxis of transformative ESD and even fewer with the focus on innovatory action research approaches with children (rather than teachers).

In England the formal adoption of education for sustainable development has been relatively slow. In 1998 the Sustainable Development Education Panel (SDEP) set out the vision for ESD, stating:

Education for sustainable development is about the learning needed to maintain and improve our quality of life and the quality of life of generations to come. It is about equipping individuals, communities, groups, businesses and government to live and act sustainably; as well as giving them an understanding of the environmental, social and economic issues involved. It is about preparing for the world in which we will live in the next century, and making sure that we are not found wanting.

In 2006 in the UK the Government issued 'Learning for the Future: The DfES Sustainable Development Action Plan 2005/06' (DfES 2006), which set out an agenda for ESD in schools with three objectives:

- by 2020 schools should have ESD integrated into the curriculum;
- schools themselves should be models of sustainability; and
- their sustainable education remit should encompass the wider community.

Against this background, this chapter draws on an action research project exploring the impact of school-based learning for sustainability on the development of sustainable communities. We were particularly interested in exploring what forms of learning for sustainable development are most likely to initiate action and change in communities; what role young people could take; and the capacity for developing the role of schools beyond the immediate preoccupation with educating children.

The project worked with six schools (three primary, three secondary) representing a mix in terms of rural/urban and levels of social and economic well-being. All of the schools had a history of ESD and had worked with one of EcoSchools, the World Wildlife Fund (WWF) or Peace Child International as ESD providers. In primary schools children were drawn from years two to six (ages six to ten) and in secondary schools from years seven to ten (ages eleven to fourteen), with participants selected to ensure a mix of gender, ethnicity, social class and previous experience of sustainability work. Parallel inquiry groups were held with parents and adult community members, supplemented with reflective dialogues with school heads, teachers and NGO practitioners. Further reflective learning was undertaken in two research workshops with school staff, NGO practitioners and 'invited experts' from the field.

In each school we facilitated four half-day action research sessions over a year. The action research groups explored issues and designed actions that they felt would have an impact on sustainability. Research

inquiries with young people typically involved using activities and visual material to engage young people in thinking about the issues, considering different responses and ideas for action, then in subsequent sessions reflecting on what happened on taking those actions. The inquiries evolved from an introductory session exploring issues concerning sustainability and the degree to which their school was sustainable. Young people undertook research in their own school, analysed and reflected on their experiences and findings and then identified actions they could put in place within the school, for example, to educate others about being more sustainable. In one school, children designed a process that involved the school operating for a full day with no energy. The children talked to managers, administration staff, the caretaker, etc. They sent out an exploratory email to teachers and received twenty-two responses. This gave them a rich systemic picture of the issues they would have to consider. Constructive dialogues were opened up with school staff about complex issues such as what to do about the automatic flush on urinals, health and safety in buildings, emergency communication, etc. This provided the basis for the action and the children's research challenged a number of assumptions, including, for example, that health and safety would limit what was possible; that teaching could not be effective without technology; and that children would not eat cold food.

School ESD tutors supported children in carrying out activity between the action research meetings. At each subsequent meeting, the impacts of these actions were reflected upon and new inquiry and action pursued. This process was supported by detailed research notes and flip chart materials, which provided a continuous stream of data for collective group analysis.

Children's inquiries then expanded to explore more widely how communities might learn to become more sustainable and the roles different parties could play. In this way children had the space to develop a critical perspective and become active researchers themselves involved in inquiry, analysis, planning, decision making, taking action and evaluating action – all within the same research process. The underlying ethos of the approach was to cultivate critically inquiring minds as a way of exploring how to maximise the impact from learning for sustainable development. Through this approach the project explored possibilities for 'alternative' action inquiry-focused approaches to learning for change, building on principles of experiential learning, inquiry and reflective practice (Kolb 1984; Argyris and Schon 1978; Burns 2007).

The following discussion draws on the learning from this project, elaborating an action research approach to learning for sustainability in which individuals might develop capacity as leaders of change in their own lives and communities. It uses case study examples to illustrate different dimensions to the action research process and concludes by highlighting lessons from the project.

Exploring the praxis of sustainability education: Action research as a strategy for leadership and learning for change

A key dilemma in developing sustainability education has been to try and achieve transformative learning within a paradigm of transmissive education. If ESD is to progress towards achieving its goals of transformative learning and action, new approaches to developing an education *as* active citizenship are needed that implicate learners as leaders in their own lives as a central part of the focus. Recognising that 'sustainability is an ongoing social learning process that actively involves stakeholders in creating their vision, acting and reviewing changes' (Tilbury 2007: 117) action research offers an alternative, participatory strategy of learning for change involving groups in processes of critically reflexive, inquiry-based, social learning.

Experiential learning: Reconnecting with nature

Fundamental to any response to the sustainability challenge is the imperative of reconnecting with nature. First-hand experience of nature provides possibilities for deeper levels of learning about nature and our relationships with it. Many young people were motivated in activating their new knowledge about sustainability through direct experience in school gardens. Such experiential learning is a key characteristic of action research, involving learning from doing in the context of everyday lived experience, and provides a number of benefits for learners. First, it provides opportunities for first-hand experiences of nature – physical, sensual, emotional and spiritual -- which provide possibilities for connecting (or reconnecting) with nature and the roots of human existence. There is an essential psychology in our relationship and connection with nature (Heft and Chawla 2006) and the planet, which has been lost through 'progress' in modernity. However, many children and young people experience a very real sense of empathy and connection in their experiences of nature. Second, through first-hand experiences children are able to learn practical skills and abilities and develop a sense of mastery or 'environmental competence' (Heft and Chawla 2006) out of their transactions with nature. Third, experiential learning is essentially participative in that learners engage in learning in relation to their own experiential realities and learning needs. Through first-hand experiences, children are better able to understand and reflect on their own values, thinking and actions. In essence, experiential learning is participatory and person-centred, focusing on human experience in relation to the world.

Figure 10.1 Children improving their school grounds



To achieve these goals of experiential learning, the setting for learning needs to move beyond the classroom to community settings where 'real world' learning can take place as an integral part of our lived experiences (Bentley 1998; Ward and Fyson 1976). Within schools, school gardens and farms provide opportunities for children to gain experience outside of the classroom and develop practical knowledge and skills that can build capacity, confidence and empathy with nature. Beyond the confines of the school, children can also experiment and learn at home to be more sustainable. In a majority of cases children reported that their ideas – for example to grow their own vegetables – had been successfully embraced by their families, with only a small number of cases where parents were unsupportive. And further, possibilities for experiential learning can extend into the wider community, developing a sense of belonging, ownership and care and possibilities for building social efficacy.

Inquiry based learning: Developing a critical consciousness

By situating learning within the context of local experience, there exist opportunities to understand experience and place in the world in a process of situated social learning (Lave and Wenger 1991) and to challenge taken-for-granted norms and assumptions. Further, the use of creative forms and processes, like action research, supports different ways of seeing and knowing that can provide a fertile ground for learning for change:

We need enough time created for open-ended investigation and links to the creative curriculum ... Young people instigating action research to explore and solve their own issues is a positive step ... empowers them to take action.
(ESD coordinator)

In turn, this leads to a more holistic, or whole, system focus for inquiry, as people relate local realities to wider social, economic and environmental systems.

In this research, children began their inquiries by using their understanding of sustainability to critically examine how sustainable their school was, involving environmental audits and carrying out research with staff and pupils (Figure 10.2). As a consequence, they were more aware of how their actions and choices shaped their immediate everyday realities. Developing a capacity for such critical reflexivity (Weil 1998) helps to challenge our whole way of thinking about how we live, our lifestyles, attitudes and behaviours – in this case about what food we eat and how we travel, what we consume and how we dispose of the waste and what energy we use and how we function as a community. However, empowerment through critical reflexivity is not just about reaching a more enlightened position for implementing technical solutions; rather, it is about a way of developing a heightened consciousness of human–environment relationships guided by an ethic of practice (Kemmis 2009) or a process of reflective living practice (Shallcross *et al.* 2006).

Figure 10.2 Children critically assessing how sustainable their school is



In three of the schools, 'sustainable food' was chosen as a key strand to focus their inquiries. Food and healthy eating is an effective way to catalyse action in the community since it is relevant to the everyday choices families make (Figure 10.3).

Figure 10.3 Case study: Inquiring into sustainable food

A focus on food – how and where it is produced, the packaging it comes in and how it is sold – raises multiple sustainability issues concerning diet and health, waste and recycling, transport (food miles and shopping trips), supporting local economies and conservation of natural habitats.

In the first instance, interactive activities including matching games and cartoon dialogues, were used to help children explore issues about healthy eating, where food comes from and how people learn to eat more sustainably. Providing opportunities for children to try out different fruits and vegetables and talk about where they come from can be quite instructive in affecting young people's attitudes to healthy eating and sustainable shopping and is a powerful basis from which they can make choices and influence their families. In parallel, children had opportunities to gain practical hands-on experience in the school garden where they were able to develop skills in 'growing your own', which supports their role as agents of change. To further support children's inquiry into food, a picture linking exercise was used to help them think about the links between local actions and global impacts, for example between food miles and global warming or the impact of plastic bag use on wildlife.



The inquiry was then extended further so that children could think about what could happen differently. A story was used – involving the fictitious characters of Fast Food Freddie and the (wise) Jolly Green Giant – to help children think about how people could eat more sustainably. Through this story children were able to think about alternative scenarios of what might happen differently at a local level. Children identified things they could do to help their families eat more sustainably at home, which the children tried out.

Based on this research and experiential learning in school gardens involving children growing vegetables, some children tried to start growing vegetables themselves at home and engaging relations in the process. Others took action by asking for healthy options in their lunch boxes. Whereas sustainable food consumption and healthy eating are already part of the value system for some families, for poorer families diet and healthy eating, in addition to price of food, are key variables in sustainable food decisions. Some parents from one of the poorer estates were simply unaware of the importance of healthy eating until their children had talked about it as a result of what they had learnt from the sustainability curriculum in school. The importance of activities such as these within the context of sustainability education is that they help develop in children the capacity and inclination for double- rather than just single-loop learning (Argyris and Schon 1978). Whereas single-loop learning involves a more instrumental process of finding alternative practices, double-loop learning involves a process of challenging our

own thinking and values that underlie action. In turn, children can play a key role in extending this learning to others.

Empowerment through critical reflexivity; realising a sense of agency

Through encounters locally with nature it becomes possible for individuals to become more self-aware of their own values and actions in ways that have in-built accountability through fostering environmental and social responsibility. As Hart (2007: 231) indicates,

action research, viewed as interactive learning construed as critically reflexive of 'what's behind human actions', implicates notions of identify (self) and agency in linking individual and socio-cultural dimensions of this process.

Through reflection and inquiry within the action research process the individual is able to build knowledge, skills and understanding that can open up choices for alternative action and build capacity for self-determination, empowerment and leadership.

Children and young people articulate a keen sense of wanting to be involved in change processes. Children have something to say and enthusiasm to put ideas into action; and evidence from this project suggests that many parents are keen to encourage their children to be more involved in taking an initiative with new ideas. Yet education systems and prevailing views of childhood tend not to be conducive to supporting children's roles as agents of change. Four reasons emerged from this project, which had a particularly strong influence on whether children were able to act on their learning and take action in their homes and communities:

- an approach to learning that supports creativity and action;
- ensuring that children have opportunities to take initiative and take on leadership roles;
- active encouragement and sustained support from adults; and
- adult-child relationships based on an explicit recognition of the capabilities of children.

The idea of children as agents of change in communities challenges learning providers and adult community members to think about the extent to which opportunities are provided for children to undertake leading roles as active citizens (Fielding 2001). Within an action research paradigm action and, by implication, leadership are integral to learning. Through this research we found significant enthusiasm and creativity from children and young people who wanted to take on more active roles by leading and extending sustainable learning and development initiatives to the community. These included stimulating action within community groups, educating others, undertaking community research (Figure 10.4) or more directly as ambassadors of change.

Figure 10.4 Encouraging sustainable shopping habits

In one of the secondary schools students engaged in inquiry into how people could shop more sustainably. Their aim was a project that would help the town become a 'sustainable food zone'. To do this they realised they needed to identify what the issues are that affect sustainable shopping habits (e.g. whether there are local shops selling local, sustainably produced goods), the barriers (e.g. what affects people using local shops) and how to change people's habits. The students undertook a survey into food habits in the local town. They asked questions about where people buy food from and why; whether they bought from local shops; how they travelled to do their shopping and what affected where they did their shopping. The students learnt from the survey that price, quality, convenience and availability were more important variables affecting where people shopped than whether the products were seasonal, local, organic or fairtrade. But they also found out that many locals did not know about sustainable options available locally. At the same time young people feel strongly that if people are informed about the issues (how food is produced) and what they can do to make a difference, then change can happen. They decided that if more independent local shops selling local produce could be encouraged these would support local business, bring the community together and help people to shop more sustainably. In response to issues raised by the food survey, students felt that if they provided information about the issues and what is available this would encourage people to shop and eat more sustainably. The result was a sustainable food guide put together by the students.

Figure 10.5 Sample from a sustainable shopping guide developed by young people



Innovation through social learning

Finding ways of living more sustainably requires a transformation in how we think about the way we live and processes of innovation to create alternatives. Creative problem solving can be most effective when different individuals and groups get together in what Kemmis (2001) referred to as a 'communicative action space', providing opportunities for dialogue and collaborative inquiry involving social learning (Wals 2007; Percy-Smith 2006). By engaging with others new possibilities for creative learning arise as a product of collaborative engagement characterised by dialogue and reciprocity around issues of mutual concern. Wildemeersch *et al.*

(1998) identified four axes of social learning in terms of action, reflection, communication and cooperation, which they used to construct a theory of social learning which places emphasis on the problem-solving potential of a group. It regards social learning as action- and experience-oriented, reflecting and questioning the validity of opinions, strategies, actions, and feelings.

Participatory social learning also allows individuals to develop a sense of responsibility and an action consciousness – knowing that they can make a difference.

Learning from learning in action

In exploring how an action research approach might be able to enhance the effectiveness of ESD learning in schools, we have argued that for meaningful sustainability learning and change to take place young people (and, in turn, adults) need to develop the capacity for critical self-reflexivity, social learning, agency and empowerment in their own lives. This final section reflects on the learning from this project and the ideas put forward in this paper in relation to wider debates about ESD, distilling key learning and implications for future thinking concerned with learning and leading sustainable development.

There needs to be a more realistic expectation of the ‘spillover’ from ESD. The concern here was not about generating insights into what enables or hinders spillover of learning, for that is well documented elsewhere (see, for example, Warburton *et al.* 2008; Crompton and Thøgersen 2009). Rather, it has been to suggest that while it is clear that children have a very definite impact on the adoption of some individual sustainable practices at home – such as recycling, saving energy and growing vegetables – there is considerably less impact on fundamental changes to lifestyles needed to address the global environmental problems. Further, one of the shortfalls of spillover is that parents simply experience their learning as another bit of ‘transmitted’ knowledge their children bring home rather than being engaged in deeper inquiry-based critically reflexive learning to bring about fundamental changes in their values and actions. As the action research shows, finding more inclusive ways to bring parents and other community members into the learning process by widening inquiry-based learning outside of the classroom and by supporting children in exercising their own agency is more effective than more conventional approaches to education involving knowledge transfer.

There is a limit to what ESD in schools can realistically be expected to achieve without the necessary social, economic and political adjustments to help provide a context in which the benefits of ESD can be enacted and realised in practice. In the research with schools, key variables affecting whether change happened included cost, availability of sustainable alternatives and time. In seeking possibilities for change, many parents as well as children suggested the importance of government measures alongside local action to provide a context in which sustainable options are

more easily realisable. These included financial incentives and supports, provision of appropriate facilities and services, and regulation and controls to dissuade unsustainable practices. However, whilst initiative needs to come from the top and bottom, ultimately it is changes in the actions and lifestyles of people that will dictate how sustainable human civilisation is. Local learning for sustainability needs to be part of a wider process of social, economic and political learning at all levels. This requires a whole-system perspective on learning for sustainability, but one that is rooted in local action, which takes the focus of learning beyond the classroom and acknowledges that all actions and choices are interdependent. This chapter concludes by highlighting three key learning outcomes from this research about how learning and leadership at a local level can be stimulated.

Young people as agents of change in sustainable learning and development

Many of the young people in this research articulated a deep sense of concern and commitment to aspects of sustainable living, are keen to learn more and are able to think realistically about solutions and ways of engaging the community to promote sustainable living.

Young people, and in turn schools, are therefore well placed to play a key role in sustainable development initiatives. A focus on school-based ESD therefore makes sense. Yet, within current educational regimes and social constructions of childhood, there are a number of contradictions in the way children are educated and the ESD curricula provided. Whilst we focus on the need for children to learn to live more sustainably, at the same time children are often denied the opportunity to develop and articulate their own sense of agency and creativity. The result is that children 'learn about stuff' but do not necessarily have the wherewithal to act on that learning and develop a sense of leadership and agency in their own lives. In part this reflects a culture in which children have historically been seen as 'in a state of becoming', not yet having developed sufficient competence to become 'actors of change' and therefore in need of adult guidance and education for when they become citizens in adulthood rather than active citizens now.

In contrast to these deficit models of childhood, young people are innately 'youthful' in the sense that they demonstrate an energy and enthusiasm in experiencing, experimenting and articulating their own ideas and sense of agency – in essence making their own contribution to the world. In this project there were three sets of variables affecting the extent to which young people were able to exercise leadership and agency dependent on: the extent to which they were availed with appropriate learning approaches that developed critical inquiry and action; having opportunities to experiment, take the initiative and engage in actions outside of the classroom; and the extent to which adults recognised, encouraged and supported young people as competent actors able to take on active roles. Removing barriers and restrictions to children's creativity,

commitment and agency as actors of social change and allowing the space for them to create different worlds is key. This does not mean we leave children to get on with it. Indeed, children's participation in change projects benefits from support, guidance and input from adults; but not control. As Mannion (2007), Fielding (2004) and Percy-Smith (2006) advocate, intergenerational learning brings additional benefits as part of a wider process of community social learning.

Creating spaces for community learning and action

Whilst schools and young people can play a key role in sustainable learning and development, change depends on engaging the commitment of the wider community. At one level schools are able to fulfil the prescriptions of the sustainable schools strategy by serving as sustainability hubs for the community involving the provision of facilities and information. But what is clear from this research is the need to expand learning out into the community as an extended school or learning activity involving the wider community in inquiry, learning and development. The most effective learning and action seems to be associated with a focus on what can be directly affected at a local level in our everyday lives. Both children and adults are more likely to engage in learning and action when they see the relevance to their everyday lives. Consequently, ESD needs to strike a more effective balance about learning about responses to global ecological issues and lived realities of the current human connectedness with nature. Building a sense of community-wide commitment and social efficacy can be critical (Warburton *et al.* 2008). As one adult community member remarked: 'It should be based on getting people together – building community. That means getting people involved, providing a focus and taking part – creating a 'can do' attitude ... communicating and sharing ideas, information and expertise' (see Figure 10.6).

Figure 10.6 Chipping sustainable community group

Building on inquiry work with children in Brabins School in the village of Chipping in rural Lancashire, parents and adult community members were invited to share perspectives about possibilities for becoming more sustainable in the community. A group of eight people engaged. The objective of organising the group was to learn experientially what might enable school-based ESD initiatives to spill over into action in the wider community to achieve a more sustainable community.

The group met three times during the research. By the second meeting group members were already taking responsibility for running the group, drafting a newsletter and planning community activities. Some people who attended the first meeting did not return, but were replaced by new members in the second meeting. Participants collectively discussed views on sustainability within the community. Good aspects were identified (for example, school-based recycling and a sense of community spirit), along with areas where the community was not doing so well (such as reliance on high levels of car usage, problems with older houses using more energy and potential for using local producers and suppliers more often). Reflecting on current levels of sustainability, participants then started to think about how they could become more sustainable in the village. The group acknowledged

the good work being undertaken with children in school, and also the importance of inter-generational activity where children and adults teach each other, although ironically the actions proposed by the group did not explicitly include the involvement of children.

Out of these initial discussions the group identified two specific actions they would take following the meeting: producing a community newsletter to communicate information, news and advice on sustainability issues to local people; and organising a spring community event in collaboration with local groups to promote sustainable practices by providing free compost, seed and plant exchange, advice and information on growing your own vegetables and sale of home-made produce.

The community group then met on two subsequent occasions before the researcher left the group. The group met once more but hasn't met since. Subsequent activities were planned to coincide with the opening of a new amphitheatre, which was built out of recycled materials from funding acquired by Brabins School. The Chipping community group had planned to invite local producers to this event to promote local produce. In the end the event was rained off and wasn't rescheduled. A further newsletter was produced around the theme of transport, which had emerged as an important sustainability theme from the inquiry work with the children (including travel diaries completed by children and families for one week) and included an initiative to promote car sharing – one of the ideas suggested by the children from their own inquiry.

What was clear in the research was the extent to which bonds of community identity and belonging, mutual interest and concern can be a powerful driver for collective action. In schools, notwithstanding any intrinsic motivation, children are a captive audience and are also often eager to learn. Getting adult community members together in a process of learning and action is somewhat more difficult. Developing a critical mass of support, sense of local commitment and collective efficacy is essential for community-wide sustainability initiatives. Innovative projects can have a limited life if deeper levels of learning and commitment are not diffused throughout the community. Community action is more likely to be sustained through a variety of activities that are relevant to people's everyday lives and interests, which build on local assets and local ideas and which are realistic in making things happen.

For change to happen at a wider community level people need to get together, acknowledge the issues at play and do something. Action emerges out of conversations about shared concerns when people get together and interact. Communities often look to schools to take a lead providing spaces to make things happen and local activities to get people involved. But, equally, many children and young people are keen to take on leadership roles and responsibilities within their communities in initiating activities emerging from their learning in schools.

In another school, following failed attempts to engage parents from the local community in this inquiry, the school organised an open afternoon to try and draw parents into the school to see what children had been learning. This provided further opportunities to widen the focus of the inquiry into the community and engage with parents around the theme of sustainable food and healthy eating. It was clear that, whilst many parents

felt eating healthily was important, this had been emphasised through their children learning about healthy eating in school and going home and requesting healthy food. In this case the school had also laid on a 'cooking bus' to provide a further resource for parents.

A key outcome from this research was the rationale for schools developing extended school capacity as sustainable community learning and development centres, similar in conception to the neighbourhood centres or urban studies centres of the 1970s (Ward and Fyson 1976). Such spaces can provide opportunities for community learning involving adults as well as children and the laudable objectives of providing contexts for intergenerational learning (Fielding 2004; Mannion 2007; Percy-Smith 2006).

Developing leadership and initiative

This research also highlights the importance of leadership. In the community initiative in the case study above, in spite of the enthusiasm in the group and some potential 'leaders' the group was unable to sustain itself owing to family and work commitments. Although this absence served as a catalyst for achieving a critical mass – 'we need to have a committee ... and we need a group of movers and shakers so we don't rely on one person' (community group member) – a key element of learning for sustainability is activated leadership in everyone.

Communities often look to schools to provide a lead. Indeed the Extended Schools initiative, bolstered by the Sustainable Schools Strategy provides impetus for this to happen. Schools play an important leadership role as a physical hub for the community, providing information, a space for activities, a catalyst for community initiatives and possibilities of developing as sustainable community learning and development centres. Further, as the experiments in the six schools illustrated, schools are also the locus of future leaders of communities, and already have within them key young people rich in ideas and eager to be active citizens in working towards more sustainable communities. Significantly, however, this chapter has articulated a strategy for sustainability learning and change using an action research approach in which all individuals are leaders in learning and change.